READ THIS!!!

This checklist was developed as a ***Mission Aircrew Quick Reference Guide*** to systems and procedures commonly used in CAP aircraft. Some sections may not be applicable to all crew positions. It is ***not*** a substitute for training. Those members seeking an Observer or Scanner rating, or previously rated members seeking re-certification should contact their unit Emergency Services Officer for scheduled aircrew training in their area.

Mission forms and worksheets are ***not*** included. The Incident Commander or Air Operations Director should provide appropriate forms. Additional copies may be obtained through your unit Emergency Services Officer and/or Standardization/Evaluation Officer.

For additional information regarding avionics operation and troubleshooting procedures, refer to the manufacturer's operator manuals. For detailed CAP Flight and SAR procedures, refer to **CAP Regulations 60-1**, **60-3** and **60-4**, as well as CAP aircrew training manuals, supplements and reference texts.

Copy/reduce pages to 60%, and trim to fit standard military aircrew checklist binders, which are available from the CAP Supply Depot and/or AAFES Military Clothing Sales Stores.

Cover and table of contents pages were omitted due to the limited number of protective plastic pages included in the binders. Page numbers were omitted to allow for addition of new systems and equipment as they are fielded.

The use of clear adhesive index tabs for quick reference is highly recommended (Tabs are available at most office supply stores.)

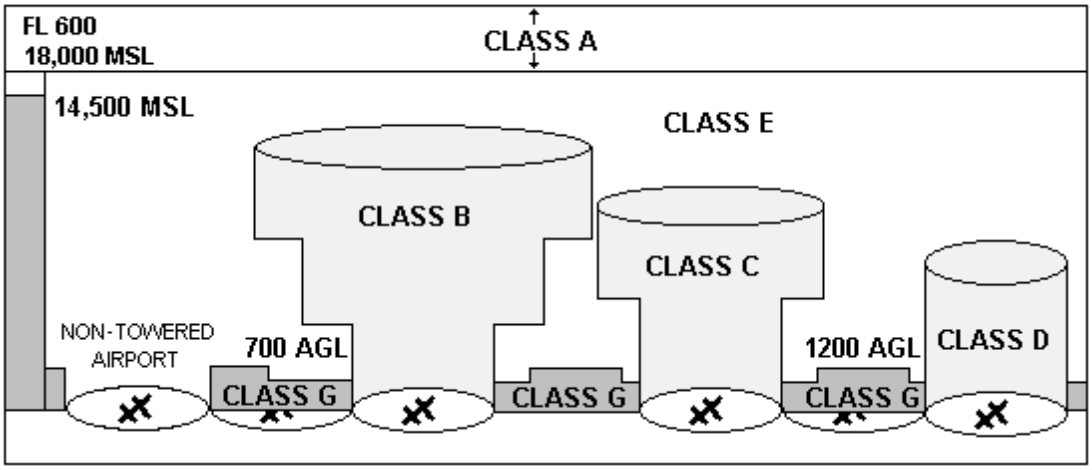
QUESTIONS AND SUGGESTIONS REGARDING THIS CHECKLIST MAY BE SUBMITTED VIA E-MAIL TO FLWGDOV@AOL.COM

POC: CAPT MANUEL A. ALFARO, CAP

V6.0, FEB 03

VFR FLIGHT INFORMATION

VFR AIRSPACE CLASSIFICATIONS



BASIC VFR WEATHER MINIMUMS

AIRSPACE	FLIGHT VISIBILITY	DIST. FROM CLOUDS
CLASS A	NOT APPLICABLE	NOT APPLICABLE
CLASS B	3 STATUTE MILES	CLEAR OF CLOUDS
CLASS C	3 STATUTE MILES	500 FT BELOW 1,000 ABOVE 2,000 HORIZONTAL
CLASS D		500 FT BELOW 1,000 ABOVE 2,000 HORIZONTAL
CLASS E LESS THAN 10,000 FEET MSL	3 STATUTE MILES	500 FT BELOW 1,000 ABOVE 2,000 HORIZONTAL
AT OR ABOVE 10,000 FEET MSL	5 STATUTE MILES	1,000 FT BELOW 1,000 ABOVE 1 NM HORIZONTAL
CLASS G (1,200 FEET ABOVE THE SURFACE (REGARDLESS OF MSL)		
DAY, EXCEPT AS PROVIDED IN SECTION 91.155 (B)	1 STATUTE MILE	CLEAR OF CLOUDS
NIGHT, EXCEPT AS PROVIDED IN SECTION 91.155 (B)		500 FT BELOW 1,000 ABOVE 2,000 HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE BUT LESS THAN 10,000 FT MSL		
DAY	1 STATUTE MILE	500 FT BELOW 1,000 ABOVE 2,000 HORIZONTAL
NIGHT	3 STATUTE MILES	500 FT BELOW 1,000 ABOVE 2,000 HORIZONTAL
MORE THAN 1,200 FEET ABOVE THE SURFACE & AT OR ABOVE 10,000 FT MSL	5 STATUTE MILES	1,000 FT BELOW 1,000 ABOVE 1 NM HORIZONTAL

APOLLO GX-55 GPS

NOTE: COORDINATE RADIO AND INSTRUMENT OPERATION WITH PIC BEFORE FLIGHT

✔CREATING A FLIGHT PLAN

PRESS FPL SMARTKEY

⭘ *(LARGE KNOB*)- SELECT CREATE NEW FLIGHT PLAN

PRESS ENTER

PRESS SEL **TO ENTER FLIGHT PLAN NAME**

● *(SMALL KNOB)*- SELECT CHARACTERS

⭘- MOVE TO NEXT CHARACTER

ENTER **WHEN NAME IS COMPLETE**

●- INSERT WAYPOINTS INTO FLIGHT PLAN

AT <INS?> PROMPT, PRESS ENTER

●- SELECT THE FIRST CHARACTER

⭘-TURN CLOCKWISE TO MOVE TO NEXT CHARACTER

● & ⭘- SELECT WAYPOINT NAME

ENTER

THE <INS?> PROMPT WILL FLASH FOR THE NEXT WAYPOINT

APOLLO GX-55 GPS (CONT'D)

✔CREATING A FLIGHT PLAN (CONT'D)

ENTER **AND REPEAT WAYPOINT ENTRIES UNTIL FINISHED**

SEL **TO STOP EDITING FLIGHT PLAN**

✔ACTIVATING A FLIGHT PLAN

FPL

- TURN TO DESIRED FLIGHT PLAN

SEL

- SELECT DESIRED OPTION

ENTER **TO ACTIVATE**

✔CREATING A NEW WAYPOINT

PRESS DB SMARTKEY

- TURN TO CREATE USER WPT BY LAT/LON PAGE

ENTER

- SELECT CHARACTERS

- MOVE CURSOR TO SET WAYPOINT NAME

CONTINUE TO SELECT THE NECESSARY CHARACTERS FOR LAT/LON AND RUNWAY LENGTH

ENTER

✔FINDING INFO ABOUT A WAYPOINT

DB

- TURN TO ACCESS DATABASE PAGE

ENTER

APOLLO GX-55 GPS (CONT'D)

✔FINDING INFO ABOUT A WAYPOINT (CONT'D)

●- SELECT WAYPOINT TYPE

⭘-TURN TO DESIRED CHARACTER

●- SELECT CHARACTERS

PRESS INFO

●- TURN TO VIEW INFORMATION

INFO **(FOR ADDITIONAL DATA)**

-OR-

ENTER **TO EXIT**

✔NEAREST WAYPOINT SEARCH

NRST

⭘-TURN TO CHANGE WPT TYPE

●- TURN TO VIEW NEARBY WAYPOINTS

PRESS DIRECT-TO

ENTER **TO FLY DIRECT TO WPT**

✔FLY 'DIRECT-TO' A SELECTED WAYPOINT

DIRECT-TO

●– SELECT WAYPOINT TYPE

⭘– SELECT WAYPOINT IDENT OR NAME

ENTER **TO FLY DIRECT TO WPT**

APOLLO GX-55 GPS (CONT'D)

✔SAR MODE SETUP: SET SEARCH AND RESCUE POSITION

PRESS MAP SMARTKEY

⭘– 'MAP SETUP' PAGE

SEL (THE 'ROUTE LINE' SELECTION WILL FLASH)

● - SELECT 'ON'

ENTER

●- TURN COUNTER-CLOCKWISE ONE CLICK TO REACH THE SAR POSITION PAGE

SEL (THE 'LATITUDE VALUE' WILL FLASH)

●- SELECT LATITUDE NEAREST TO SEARCH AREA

⭘- TO 'LONGITUDE VALUE'

●- SELECT LONGITUDE NEAREST TO SEARCH AREA

ENTER

✔SAR MODE SETUP: SET SEARCH AND RESCUE MAP PAGE

MAP

⭘– MAP SETUP PAGE

●- COUNTER-CLOCKWISE TO SAR MAP SETUP PAGE

SEL **TO ACTIVATE SEARCH AND RESCUE FEATURE**

●- SAR MAP VALUE ON

⭘- TO 'GRID TYPE'

●- 'US' OR 'BASIC'

APOLLO GX-55 GPS (CONT'D)

✔SET SEARCH AND RESCUE MAP PAGE(CONT'D)

- ***US GRID*** POSITION IS BASED ON SECTIONAL (CAP) GRIDS
- ***BASIC GRID*** POSITION IS BASED ON LAT/LON POSITIONS

⭘- TURN TO 'POSITION'

●- SELECT GRID POSITION

ENTER

✔PARALLEL LINE SEARCH PATTERN

SAR MODE-**SET**

PAT

●- **SELECT 'PARALLEL LINE PATTERN'**

ENTER

SEL

● & ⭘- **SELECT GRID**

⭘- **SELECT SPACING**

●- **SELECT (0.2- 9.9 NM)**

⭘- **SELECT DIRECTION OF TRAVEL**

●- **SELECT N/S OR E/W.**

ENTER **TO SAVE INFORMATION**

ENTER **TO ACTIVATE THE SEARCH PATTERN**
(SAR MAP PAGE REACTIVATES)

PAT **TO DISENGAGE SEARCH PATTERN**

APOLLO GX-55 GPS (CONT'D)

✔CREEPING LINE SEARCH PATTERN

SAR MODE-**SET**

PAT

●- **SELECT CREEPING LINE PATTERN**

ENTER

STARTING WAYPOINT FIELD WILL FLASH **<INS?>** OR **<CHG?>**

ENTER

SELECT WAYPOINT

ENTER

O- SELECT SPACING

●- **SELECT (0.2 - 9.9 NM)**

O- SELECT DIRECTION OF TRAVEL

●- **SELECT (0 - 359°)**

ENTER

DIAMOND ◊ ON THE LOWER RIGHT SCREEN (NEXT PAGE)

●- **TURN TO NEXT PAGE**

SEL

●- **SELECT LEG LENGTH (1.0 - 9.9 NM)**

O- SELECT DIRECTION

●- **SELECT LEFT OR RIGHT**

ENTER **TO SAVE INFORMATION**

ENTER **AGAIN TO ACTIVATE SEARCH PATTERN**
(SAR MAP PAGE REACTIVATES)

APOLLO GX-55 GPS (CONT'D)

✔CREEPING LINE SEARCH PATTERN (CONT'D)

PAT **DISENGAGES SEARCH PATTERN**

✔EXPANDING SQUARE SEARCH PATTERN

SAR MODE-**SET**

PAT

●- **SELECT EXPANDING SQUARE PATTERN**

ENTER

STARTING WAYPOINT FIELD WILL FLASH <INS?> OR <CHG?>

ENTER

SELECT WAYPOINT

ENTER

⭘- **SELECT SPACING**

●- **SELECT (0.2 - 9.9 NM)**

⭘- **SELECT DIRECTION OF TRAVEL**

●-**SELECT (0 - 359°)**

ENTER **TO SAVE INFORMATION**

ENTER **TO ACTIVATE SEARCH PATTERN**
(SAR MAP PAGE REACTIVATES)

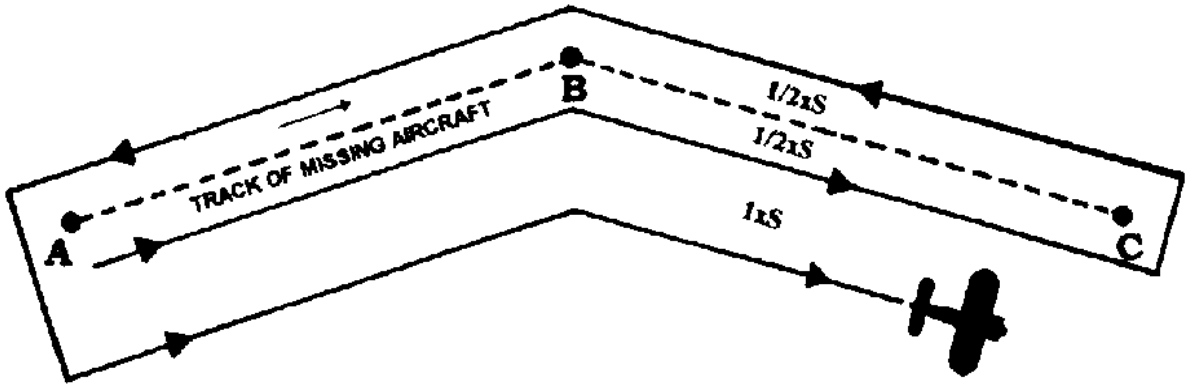
PAT **DISENGAGES SEARCH PATTERN**

GX-55 GPS: US GRID CHART TABLE

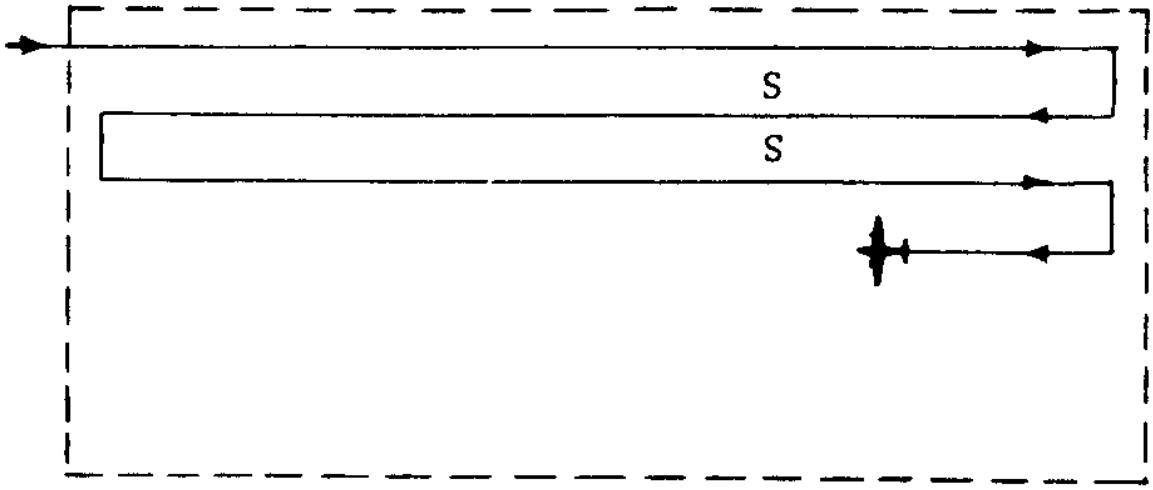
CHART	IDENT	NORTH LIMIT	SOUTH LIMIT	WEST LIMIT	EAST LIMIT	TOTAL GRIDS	GRIDS/ ROW
Seattle	SEA	49°00N	44°30N	125°00W	117°00W	576	32
Great Falls	GTF	49°00N	44°30N	117°00W	109°00W	576	32
Billings	BIL	49°00N	44°30N	109°00W	101°00W	576	32
Twin Cities	MSP	49°00N	44°30N	101°00W	93°00W	576	32
Green Bay	GRB	48°15N	44°00N	93°00W	85°00W	544	32
Lake Huron	LHN	48°00N	44°00N	85°00W	77°00W	512	32
Montreal	MON	48°00N	44°00N	77°00W	69°00W	512	32
Halifax	HFX	48°00N	44°00N	69°00W	61°00W	512	32
Klamath Falls	LMT	44°30N	40°00N	125°00W	117°00W	576	32
Salt Lake City	SLC	44°30N	40°00N	107°00W	109°00W	576	32
Cheyenne	CYS	44°30N	40°00N	109°00W	101°00W	576	32
Omaha	OMA	44°30N	40°00N	101°00W	93°00W	576	32
Chicago	ORD	44°00N	40°00N	93°00W	85°00W	512	32
Detroit	DET	44°00N	40°00N	85°00W	77°00W	512	32
New York	NYC	44°00N	40°00N	77°00W	69°00W	512	32
San Francisco	SFO	40°00N	36°00N	125°00W	118°00W	448	28
Las Vegas	LAS	40°00N	35°45N	118°00W	111°00W	476	28
Denver	DEN	40°00N	35°45N	111°00W	104°00W	476	28
Wichita	ICT	40°00N	36°00N	104°00W	97°00W	448	28
Kansas City	MKC	40°00N	36°00N	97°00W	90°00W	448	28
St. Louis	STL	40°00N	36°00N	91°00W	84°00W	448	28
Cincinnati	LUK	40°00N	36°00N	85°00W	78°00W	448	28
Washington	DCA	40°00N	36°00N	79°00W	72°00W	448	28
Los Angeles	LAX	36°00N	32°00N	121°30W	115°00W	416	26
Phoenix	PHX	35°45N	31°15N	116°00W	109°00W	504	28
Albuquerque	ABQ	36°00N	32°00N	109°00W	102°00W	448	28
Dallas/Ft Worth	GSW	36°00N	32°00N	102°00W	95°00W	448	28
Memphis	MEM	36°00N	32°00N	95°00W	88°00W	448	28
Atlanta	ATL	36°00N	32°00N	88°00W	81°00W	448	28
Charlotte	CLT	36°00N	32°00N	81°00W	75°00W	384	24
El Paso	ELP	32°00N	28°00N	109°00W	103°00W	384	24
San Antonio	SAT	32°00N	28°00N	103°00W	97°00W	384	24
Houston	HOU	32°00N	28°00N	97°00W	91°00W	384	24
New Orleans	MSY	32°00N	28°00N	91°00W	85°00W	384	24
Jacksonville	JAX	32°00N	28°00N	85°00W	79°00W	384	24
Brownsville	BRO	28°00N	24°00N	103°00W	97°00W	384	24
Miami	MIA	28°00N	24°00N	83°00W	77°00W	384	24

VISUAL SEARCH PATTERNS

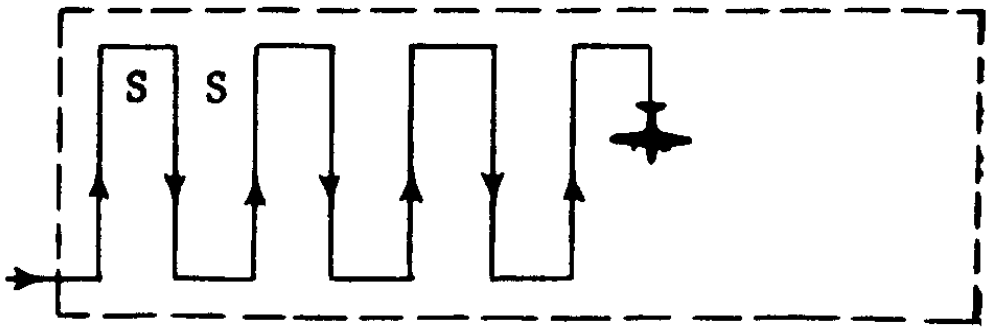
TRACK CRAWL (ROUTE) SEARCH



PARALLEL TRACK OR PARALLEL SWEEP

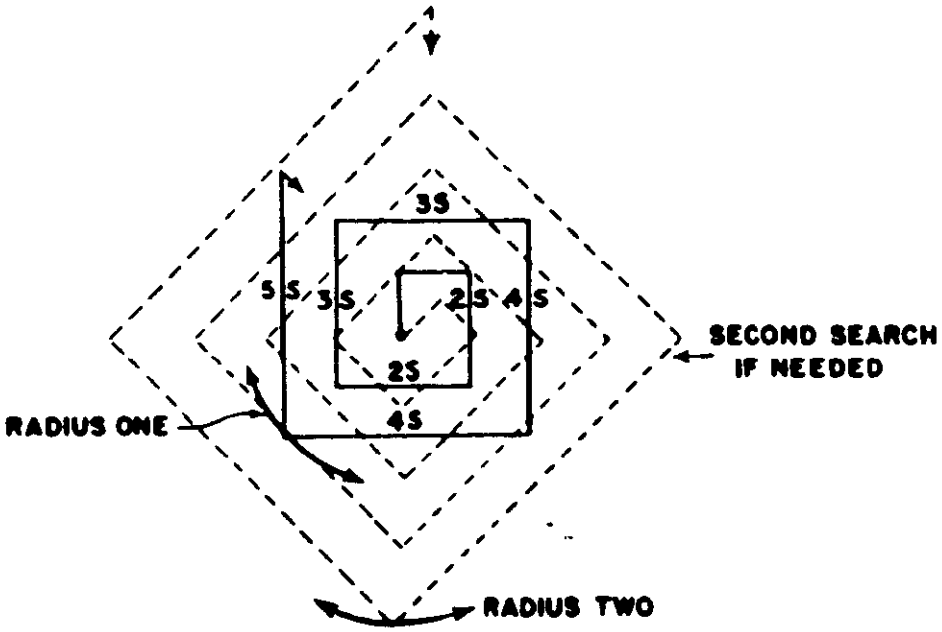


CREEPING LINE

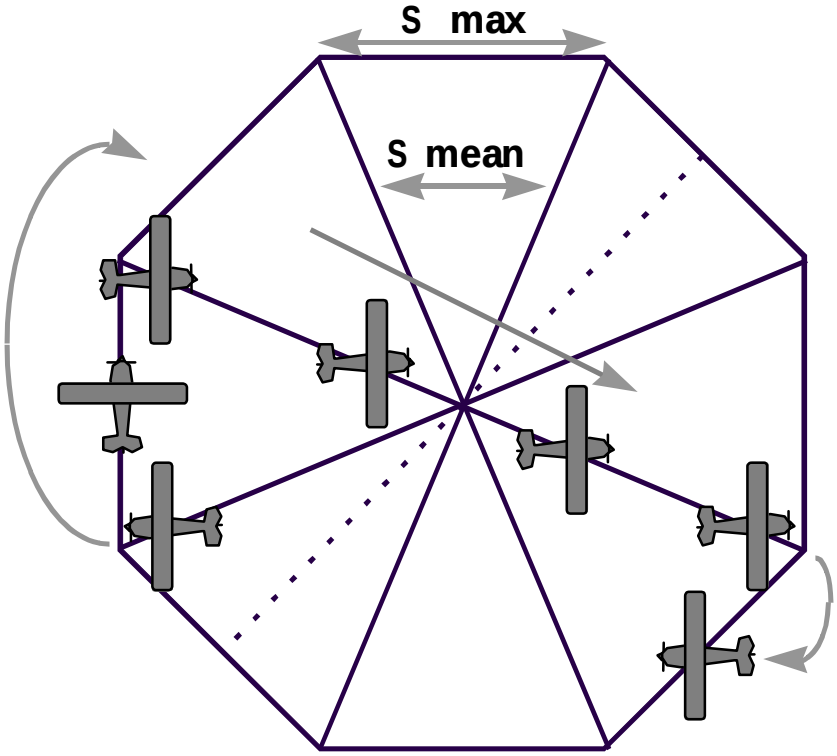


VIS. SEARCH PATTERNS (CONT'D)

EXPANDING SQUARE



SECTOR SEARCH



POD CHARTS

MISSION POD CHART

OPEN, FLAT TERRAIN				
Srch Alt. (AGL)	Search Visibility			
Track Spacing	1 mi	2 mi	3 mi	4 mi
500 ft				
0.5 mi	35%	60%	75%	75%
1.0	20	35	50	50
1.5	15	25	35	40
2.0	10	20	30	30
700 ft				
0.5 mi	40%	60%	75%	80%
1.0	20	35	50	55
1.5	15	25	40	40
2.0	10	20	30	35
1000 ft				
0.5 mi	40%	65%	80%	58%
1.0	20	40	55	60
1.5	15	30	40	45
2.0	15	20	30	35

MODERATE TREE COVER/HILLY				
Srch Alt. (AGL)	Search Visibility			
Track Spacing	1 mi	2 mi	3 mi	4 mi
500 ft				
0.5 mi	20%	35%	50%	50%
1.0	10	20	30	30
1.5	5	15	20	20
2.0	5	10	15	15
700 ft				
0.5 mi	20%	35%	50%	55%
1.0	10	20	30	35
1.5	10	15	20	25
2.0	5	10	15	20
1000 ft				
0.5 mi	25%	40%	55%	60%
1.0	15	20	30	35
1.5	10	15	20	25
2.0	5	10	15	20

HEAVY TREE COVER/VERY HILLY				
Srch Alt. (AGL)	Search Visibility			
Track Spacing	1 mi	2 mi	3 mi	4 mi
500 ft				
0.5 mi	10%	20%	30%	30%
1.0	5	10	15	15
1.5	5	5	10	15
2.0	5	5	10	10
700 ft				
0.5 mi	10%	30%	30%	35%
1.0	5	10	15	20
1.5	5	5	10	15
2.0	5	5	10	10
1000 ft				
0.5 mi	40%	60%	75%	80%
1.0	5	10	15	20
1.5	5	10	10	15
2.0	5	5	10	10

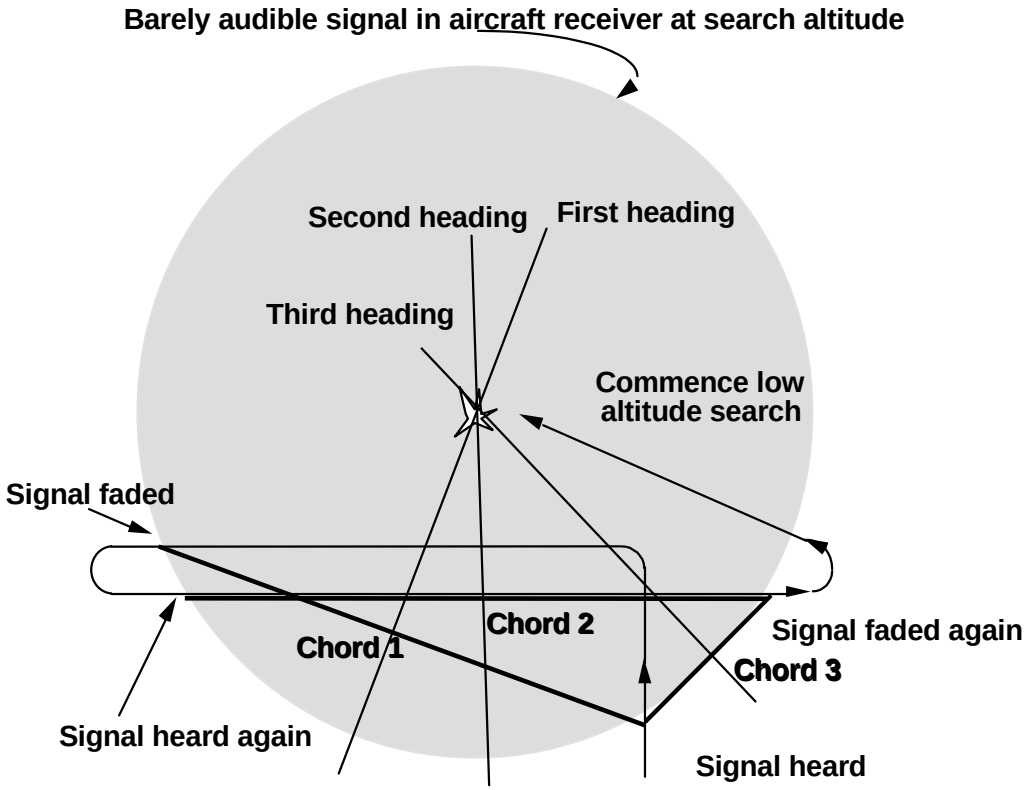
CUMULATIVE POD CHART

Previous, or Cumulative POD									
5-10%	15								
11-20%	20	25							
21-30%	30	35	45						
31-40%	40	45	50	60					
41-50%	50	55	60	65	70				
51-60%	60	65	65	70	75	80			
61-70%	70	70	75	80	80	85	90		
71-80%	80	80	80	85	85	90	90	95	
80% +	85	85	90	90	90	95	95	95	95+
	5-10%	11-20%	21-30%	31-40%	41-50%	51-60%	61-70%	71-80%	80% +

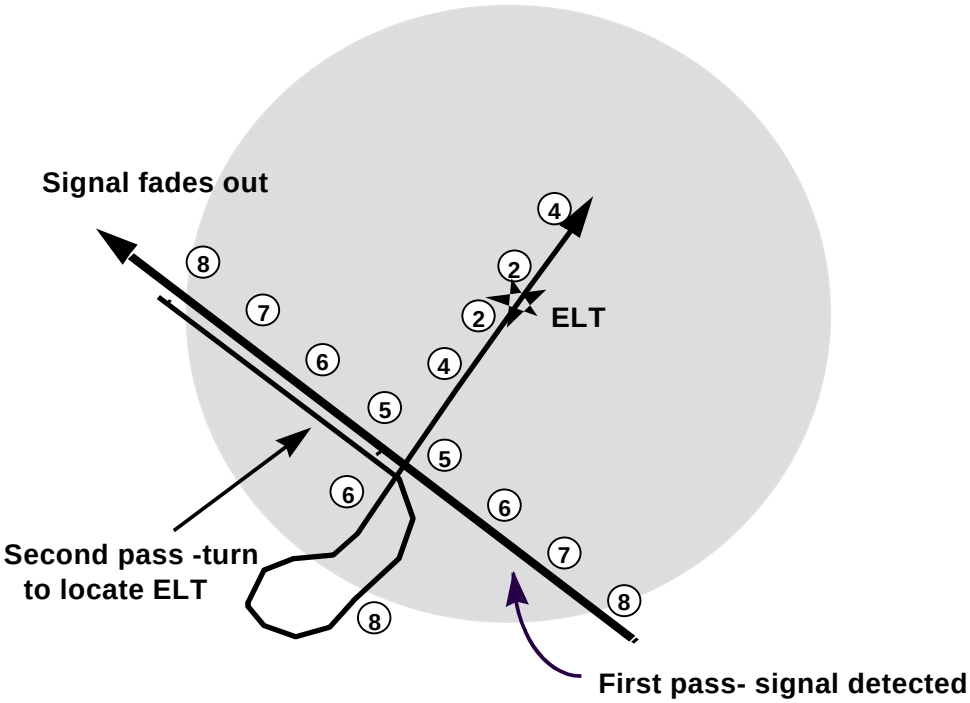
- -POD THIS SEARCH - -

DF SEARCHES

METERED SEARCH

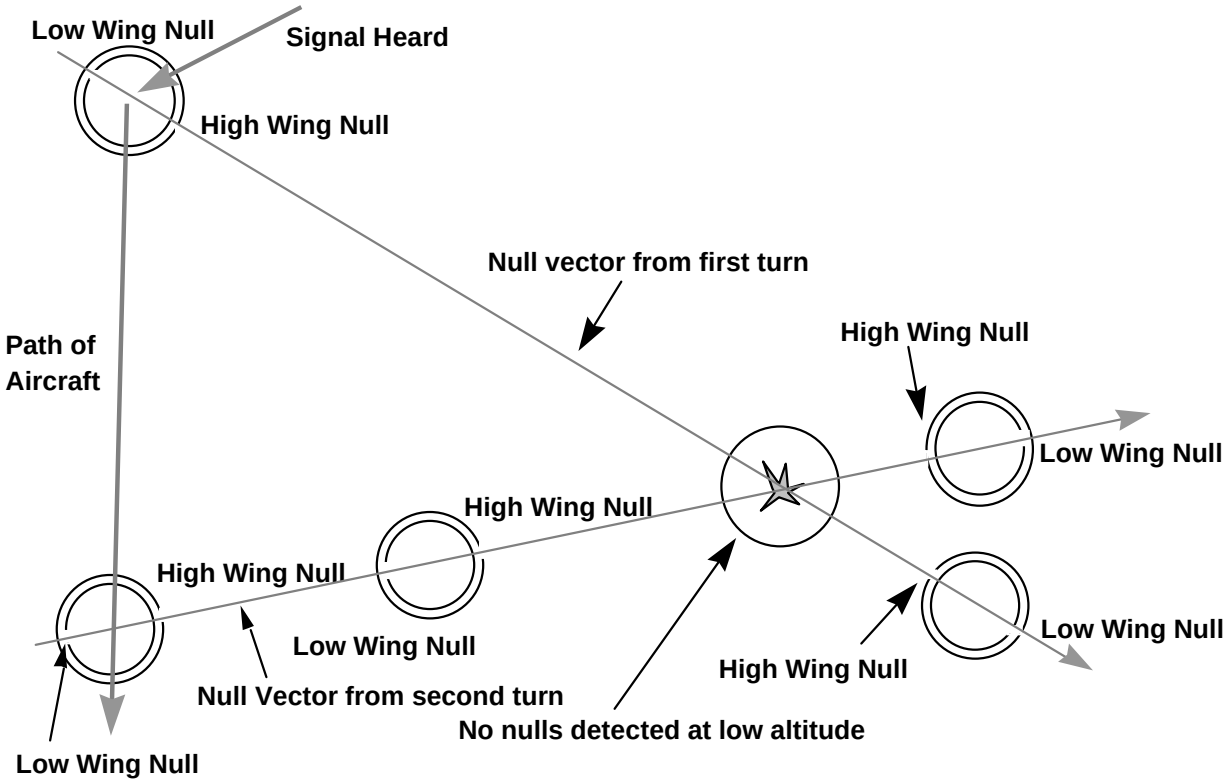


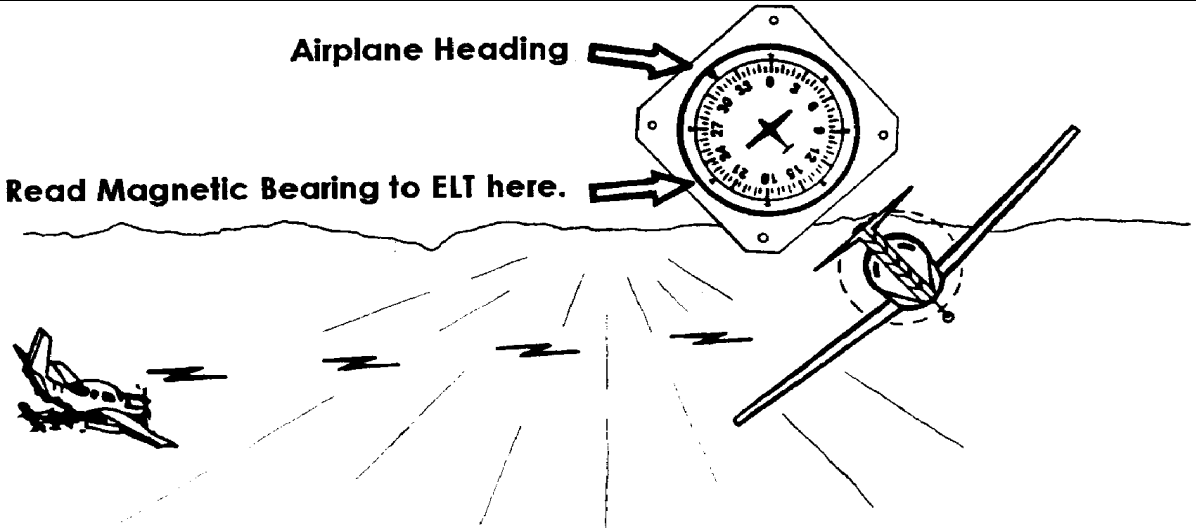
AUDIBLE SEARCH



DF SEARCHES (CONT'D)

WING NULL PROCEDURE

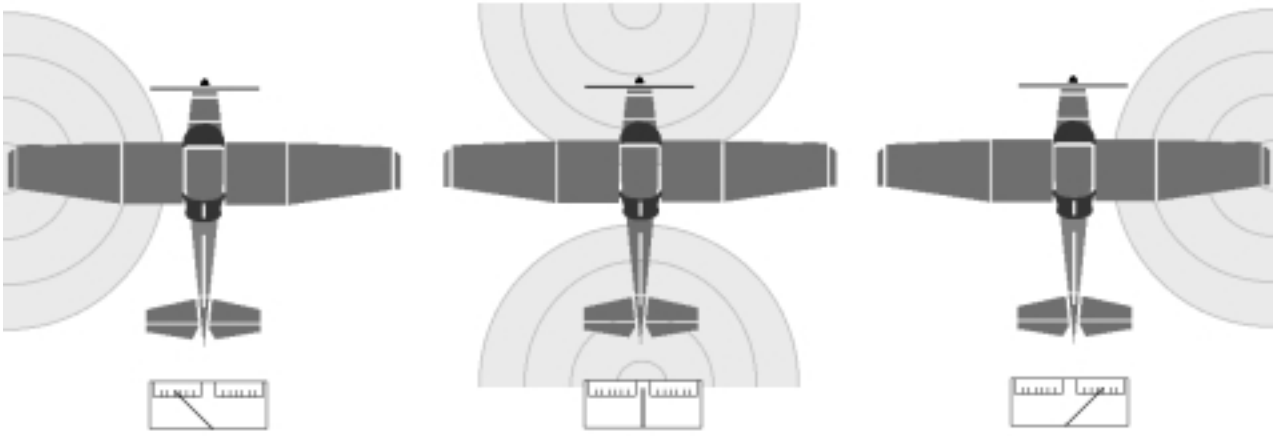




- **HIGH-WING ACFT** - LEFT TURN, ADD 90° TO ACFT HEADING WHEN TONE NULLS. RIGHT TURN, SUBTRACT 90°

- **LOW-WING ACFT** - LEFT TURN, SUBTRACT 90° FROM THE ACFT HEADING, RIGHT TURN, ADD 90°

DF SEARCHES (CONT'D)



DIRECTION-FINDING NEEDLE WILL POINT TO THE ELT

"TURN TO TELL" RULE OF THUMB: IF UNSURE WHETHER ELT IS IN FRONT OF OR BEHIND ACFT, TURN LEFT OR RIGHT.

- IF NEEDLE MOVES ***OPPOSITE OF TURN***, ELT IS IN ***FRONT*** OF ACFT.
- IF NEEDLE MOVES ***IN DIRECTION OF TURN***, ELT IS ***BEHIND*** ACFT.

- RESOLVING DF AMBIGUITY -

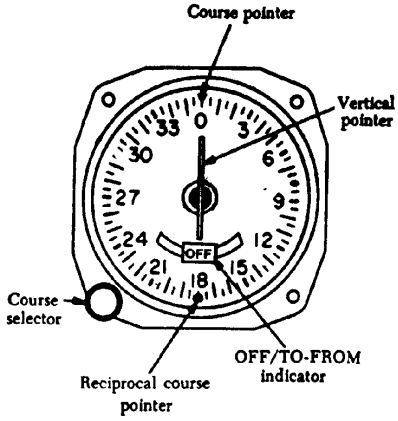
ARE YOU FLYING TOWARD OR AWAY FROM AN ELT?

	NEEDLE MOVES ◀◀ LEFT	**NEEDLE MOVES RIGHT ▶▶**
ACFT TURNS RIGHT ▶▶	**ELT TO *FRONT*** ***FOLLOW NEEDLE!***	**ELT TO *REAR*** ***TURN 180°***
ACFT TURNS ◀◀ LEFT	**ELT TO *FRONT*** ***TURN 180°***	**ELT TO *REAR*** ***FOLLOW NEEDLE!***

"CONE OF SILENCE": AUDIO SIGNAL MAY DISPPEAR WHEN ACFT IS DIRECTLY OVER ELT

VOR-DME NAVIGATION

<u>NOTE</u>: COORDINATE RADIO AND INSTRUMENT OPERATION WITH P.I.C BEFORE FLIGHT



1. VOR- DETERMINE POSITION/ DIRECT FLIGHT

VOR1 FREQ – **SET TO CORRESPONDING STATION**

CDI1 – **CENTERED (FOR DIRECT FLIGHT, SET TO DESIRED RADIAL)**

VOR1 'OFF/TO-FROM' IND – **FROM ('TO' FOR DIRECT FLIGHT)**

- *DIRECT FLIGHT –PILOT INTERCEPTS , THEN TURNS ON RADIAL*

2. CROSSCHECK POSITION WITH 2ND VOR

VOR1-**SET AS REQUIRED (SEE <1> ABOVE)**

VOR2 FREQ – **SET TO CORRESPONDING STATION**

CDI2 - **CENTERED**

VOR2 'OFF/TO-FROM' IND – **FROM**

- *INTERSECT BOTH RADIALS ON AERONAUTICAL CHART*

3. VOR-DME/DETERMINE POSITION

VOR-**SET AS REQUIRED (SEE <1> ABOVE)**

DME-**SET FREQ TO CORRESPONDING STATION**

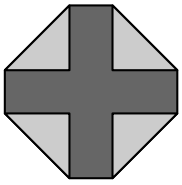
- *PLOT DISTANCE ON AERONAUTICAL CHART FROM VOR OFF INDICATED RADIAL*

VISUAL SIGNALS

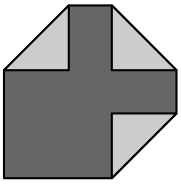
LIGHT GUN SIGNALS

COLOR AND TYPE OF SIGNAL	ON THE GROUND	IN FLIGHT
STEADY GREEN	CLEARED FOR TAKEOFF	CLEARED TO LAND
FLASHING GREEN	CLEARED TO TAXI	RETURN FOR LANDING
STEADY RED	STOP	GIVE WAY TO OTHER AIRCRAFT AND CONTINUE CIRCLING
FLASHING RED	TAXI CLEAR OF RUNWAY AREA	AIRPORT UNSAFE—DO NOT LAND
FLASHING WHITE	RETURN TO STARTING PLACE ON AIRPORT	NOT APPLICABLE
ALTERNATING RED AND GREEN	GENERAL WARNING — EXERCISE EXTREME CAUTION	

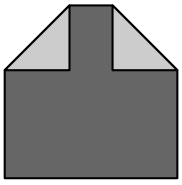
PAULIN SIGNALS



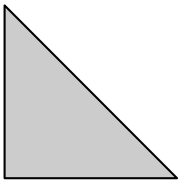
NEED MEDICAL ASSISTANCE



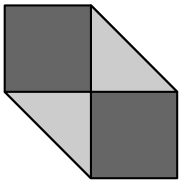
NEED FIRST AID SUPPLIES



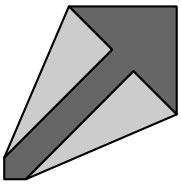
NEED WARM CLOTHING



NEED FOOD AND WATER



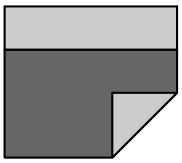
DO NOT ATTEMPT



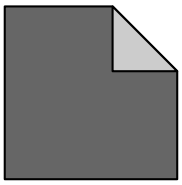
PROCEEDED IN THIS DIRECTION

SHOULD WE WAIT FOR A RESCUE PLANE?

INDICATE DIRECTION OF NEAREST HABITATION



ABANDONED PLANE-WALKING IN THIS DIRECTION



NEED GAS AND OIL

VISUAL SIGNALS (CONT'D)

EMERGENCY DISTRESS SIGNALS

Require doctor Serious injuries

Require medical supplies

Unable to proceed

Require food and water

Indicate direction to proceed

Proceeding in this direction

Will attempt takeoff

Aircraft seriously damaged

Require fuel and oil

Probably safe to land here

All well

Not understood

No

Yes

Require map and compass

Require signal lamp

Require firearm and ammunition

Require engineer

Information that A/C in this direction

Divided into 2 groups, in directions as

Unable to continue; returning

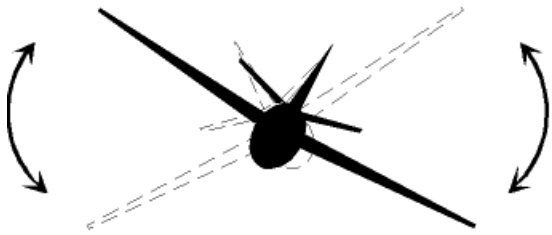
Have found only some personnel

Have found all personnel

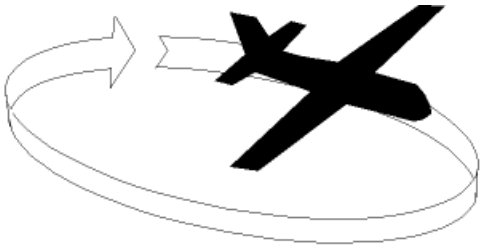
Operation complete

Nothing found. Will continue to search

AIR TO GROUND SIGNALS



a. Message received and understood



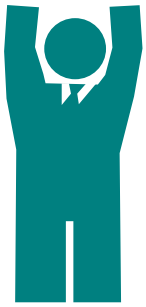
b. Message received but NOT understood

c. Yes or affirmative

d. No or negative

VISUAL SIGNALS (CONT'D)

Wave Both arms across face
DO NOT ATTEMPT TO LAND



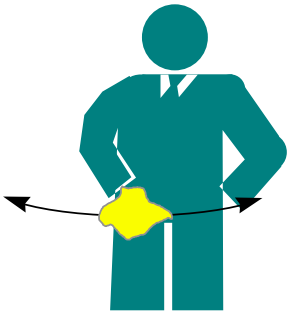
Both arms held over head
PICK UP - PLANE IS ABANDONED

Cup hands over ears
OUR RECEIVER IS WORKING

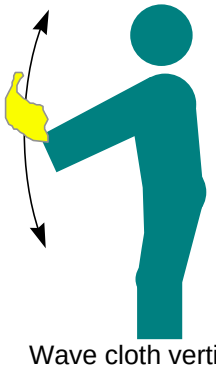
Lie flat on back with hands above head
NEED MEDICAL ASSISTANCE

Both arms horizontal
NEED MECHANIC HELP or PARTS

Wave one arm over head
ALL OK - DO NOT WAIT



Wave cloth horizontally
NEGATIVE – NO



Wave cloth vertically

NEGATIVE – NO

Both arms pointing in the direction of landing while squatting
LAND IN THIS DIRECTION

One arm horizontal

AFFIRMATIVE – YES

VISUAL SIGNALS (CONT'D)

AIR-TO-AIR/AIRCRAFT INTERCEPT VISUAL SIGNALS

INTERCEPTING AIRCRAFT SIGNAL	MEANING	INTERCEPTED AIRCRAFT RESPONSE	MEANING
ROCKS WINGS. AFTER ACKNOWLEDGEMENT INITIATES SLOW LEVEL TURN, NORMALLY TO THE LEFT, ONTO DESIRED HEADING.	YOU HAVE BEEN INTERCEPTED. FOLLOW ME.	ROCKS WINGS AND FOLLOWS.	UNDERSTOOD WILL COMPLY.
(AT NIGHT, THE PILOT WILL ALSO FLASH THE NAVIGATIONAL LIGHTS AT IRREGULAR INTERVALS.)		*(AT NIGHT, THE PILOT WILL ALSO FLASH NAVIGATIONAL LIGHTS AT IRREGULAR INTERVALS.)*	
PERFORMS AN ABRUPT BREAKAWAY MANEUVER; A CLIMBING 90º TURN W/O CROSSING THE INTERCEPTED ACFT'S FLIGHT PATH.	YOU MAY PROCEED.	ROCKS WINGS.	UNDERSTOOD WILL COMPLY.
CIRCLES APT, LOWERS LANDING GEAR, AND OVER-FLIES RNWY IN THE DIRECTION OF LANDING.	LAND AT THIS APT.	LOWERS LANDING GEAR, FOLLOWS THE INTERCEPTING ACFT AND LANDS IF THE RNWY IS CONSIDERED SAFE.	UNDERSTOOD WILL COMPLY.
(AT NIGHT, THE PILOT WILL ALSO PUT THE LANDING LIGHTS ON.)		*(AT NIGHT, THE PILOT WILL ALSO PUT THE LANDING LIGHTS ON.)*	
RAISES LANDING GEAR WHILE FLYING OVER RNWY BETWEEN 1,000' AND 2,000', AND CONTINUES TO CIRCLE THE APT.	THIS APT IS INADEQUATE.	IF THE INTERCEPTED ACFT IS REQUESTED TO GO TO AN ALTERNATE APT, THE INTERCEPTING ACFT RAISES ITS LANDING GEAR AND USES THE INTERCEPT PROCEDURES (LISTED ABOVE).	UNDERSTOOD, FOLLOW ME.
(AT NIGHT, THE PILOT OF THE INTERCEPTED ACFT WILL ALSO FLASH LANDING LIGHTS WHILE PASSING OVER THE RNWY.)		TO RELEASE THE INTERCEPTED ACFT, THE INTERCEPTING ACFT WILL PERFORM THE BREAKAWAY MANEUVER LISTED ABOVE.	UNDERSTOOD, PROCEED.
THE PILOT SWITCHES ON AND OFF ALL AVAILABLE LIGHTS AT REGULAR INTERVALS.	CANNOT COMPLY.	PERFORMS THE BREAKAWAY MANEUVER LISTED ABOVE.	UNDERSTOOD.

L-TRONICS VHF DIRECTION FINDER

<DUAL METER>

✔FUNCTIONAL CHECK - NO TRANSMITTER

FREQ - **121.5 MHZ**

ALARM - **TOGGLE OFF (DOWN)**

SENS - **MAX**

VOL -**ON**

CHECK SIGNAL STRENGTH *(HISSING SOUND ON AUDIO, SIGNAL STRENGTH NEEDLE ¼ TO ½ WAY BETWEEN CENTER AND LEFT END. DF NEEDLE CENTERED.*

SENS – **MIN, THEN MAX** *(DF NEEDLE SHOULD MOVE SLOWLY AND RANDOMLY BACK AND FORTH.) CHECK AUDIO FOR BACKGROUND NOISE.*

ALARM- **TOGGLE ON (UP)**

LIGHT SHOULD FLASH FOR 10 TO 20 SECONDS AND THEN STOP.

L-TRONICS VHF DF (CONT'D)

<DUAL METER>

WARNING! USE OF HIGH-POWER TRANSMITTERS CLOSE TO THE DF ANTENNAE CAN DAMAGE THE UNIT. DAMAGE CAN OCCUR FROM A 50-WATT TRANSMITTER IF IT IS WITHIN 12 FEET OF THE ANTENNAE (3 FEET FOR 5W; 4 1/2 FEET FOR 10W; 15 FEET FOR 80W). ELT TESTER SHOULD BE KEPT AT LEAST 50 FEET AWAY FROM THE ANTENNAE WHEN USING TO TEST FOR

✔FUNCTIONAL CHECK - WITH TRANSMITTER AND ACFT ON THE GROUND

PARK AIRCRAFT IN THE OPEN, AWAY FROM METAL BUILDINGS WITH TRANSMITTER AT LEAST 50 FEET IN FRONT OF AND 15-30 DEGREES TO ONE SIDE OF THE AIRCRAFT.

FREQ - **121.775 MHZ**

SENS - **MIN** .

VOL – **MID SCALE**

ALARM – **TOGGLE OFF (DOWN)**

VOL -**ON**

SENS - **ADJUST UNTIL AUDIBLE**

DF NEEDLE SHOULD POINT TOWARD THE TRANSMITTER. DIRECT SUPPORT PERSONNEL TO MOVE TRANSMITTER TO THE OTHER SIDE OF THE AIRCRAFT. DF NEEDLE SHOULD FOLLOW TRANSMITTER. NEEDLE MAY NOT CENTER WITH TEST TRANSMITTER DIRECTLY FORE OR AFT. DF OK IF THE NEEDLE POINTS CORRECTLY WHEN THE TRANSMITTER IS ON EITHER SIDE OF THE AIRCRAFT.

SENS – **TURN CLOCKWISE**. *(STRENGTH NEEDLE SHOULD MOVE)*

✔FLIGHT OPERATION

FREQ - **121.5 MHZ/121.775 MHZ (TRAINING MISSIONS)**

ALARM – **TOGGLE OFF (DOWN)**

SENS – **MAX**

VOL – **MID SCALE**

DF NEEDLE MOVES SLIGHTLY LEFT AND RIGHT

BECKER SAR DF-517 CONTROL DISPLAY UNIT (CDU)

SQL – **SQUELCH LEVEL**

CLR – **ERASE CURRENT MESSAGE ON DISPLAY**

STORE – **STORE CURRENT MESSAGE ON DISPLAY (OVERWRITES PREVIOUS MESSAGE**

REP – **CURRENTLY STORED MESSAGE WILL BE DISPLAYED**

PAGE – **SELECT PAGE ON VIEWSCREEN**

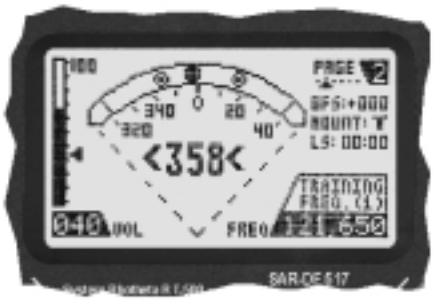
LOWER LEFT KNOB – **ADJ VOLUME**

LOWER RIGHT KNOB – **ADJUST FREQUENCY**

POWER-ON/OPERATION MODE

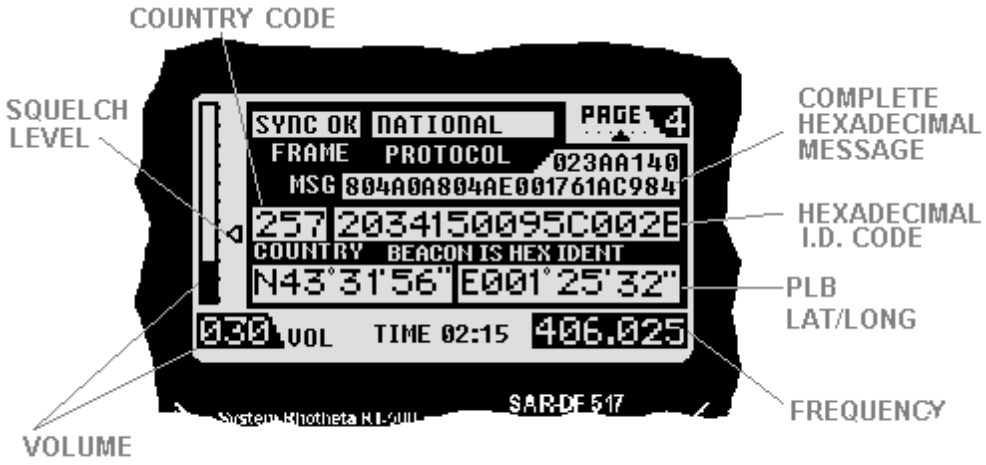
BECKER SAR DF-517 CDU (CONT'D)

PAGE 1: 360 DEGREE VIEW



PAGE 2: 90 DEGREE VIEW

PAGE 3: DIGITAL READING



PAGE 4: COSPAS/SARSAT MODE

EMERGENCY-MODE WITH FIXED EMERGENCY FREQUENCIES

156.800 MHZ (CH16/SEABAND)

121.500 MHZ (VHF)

243.000 MHZ (UHF)

406.025 MHZ (CP/SARSAT)

****SCAN-MODE*** (CONCURRENTLY MONITORS 121.5, 243.00, & 406.025)

TRAINING-MODE WITH ADJUSTABLE TRAINING FREQUENCIES

[156 ... 158] MHZ

[118 ... 123] MHZ

[240 ... 246] MHZ

[400 ... 410] MHZ

BECKER SAR DF-517 CHECKLIST

WARNING! - UNIT *OFF* DURING ENGINE START-UP/SHUT-DOWN

✔POWER-UP

ON/OFF SWITCH – **ON**

PAGE ROTARY SWITCH – **SELECT MODE (EMERGENCY/TRAINING)**

✔OPERATION MODE

DIM - **DEPRESS <REP>WHILE ADJ BRIGHTNESS WITH <PAGE>**

PAGE – **SELECT AS REQUIRED**

✔PAGES 1 TO 3 - BEARING MODE (SEE ILLUSTRATIONS)

SQL – **SET SQUELCH LEVEL AS DESIRED**

VOL (LOWER LEFT KNOB) **– AS REQUIRED**

FREQ (LOWER RIGHT KNOB) **– AS REQUIRED**

***NOTE – DF BEARINGS ARE *RELATIVE TO ACFT* (O DEGREES IS OFF THE NOSE, 180 DEGREES IS OFF THE TAIL, ETC.)**

✔PAGE 4 - COSPAS/SARSAT MODE (SEE ILLUSTRATION)

CLR – **PRESS TO CLEAR STORED MESSAGES**

STORE – **PRESS TO STORE CURRENT MESSAGE ON DISPLAY**

⃠ PAGE 5 - SYSTEM CONFIGURATION*

FOR USE BY AUTHORIZED PERSONNEL ONLY!!

BECKER SAR DF-517 CHECKLIST (CONT'D)

✔PAGE 6- TRAINING FREQUENCY SETTING (SEE FREQ. TABLES)

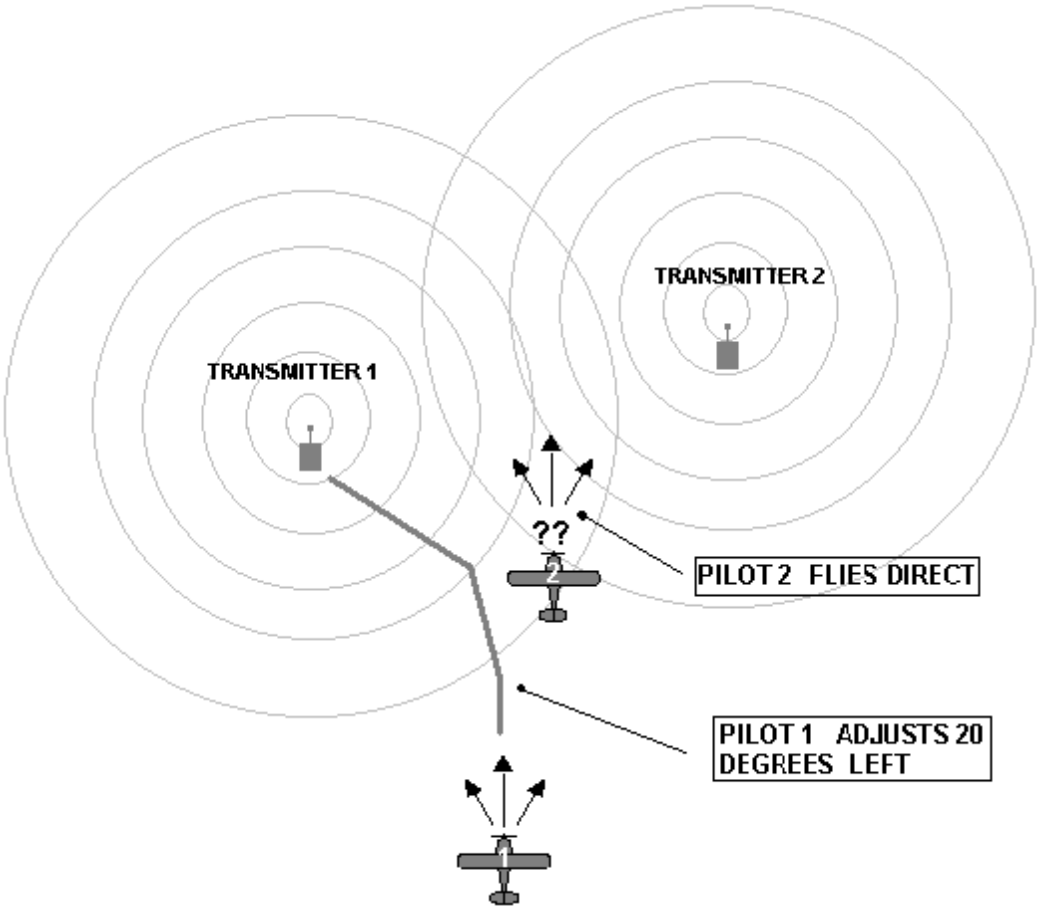
VOL (LOWER LEFT KNOB) – SELECT FREQUENCY BAND

FREQ (LOWER RIGHT KNOB) – TUNE FREQUENCY

STORE- CONFIRM CHANGES VALUES

BECKER SAR DF-517

BEARING ON MORE THAN ONE TRANSMITTER

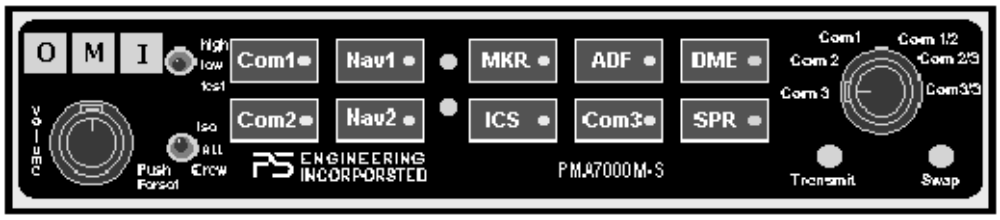


- **IF BEARING FROM A LONG DISTANCE, THE DF WILL BE POINTING AT THE MIDDLE OF THE TWO TRANSMITTERS**
- **EXACTLY IN THE MIDDLE BETWEEN TWO TRANSMITTERS, THE DF WILL DISPLAY AN UNUSABLE BEARING VALUE**
- **EXACTLY OVER ONE TRANSMITTER THE DF WILL BE POINTING TO ANOTHER (GARBLING CONE)**

<FLIGHT TACTICS>

DON‘T FLY THE APPROACH EXACTLY FOLLOWING THE INDICATED AVERAGED BEARING-VALUE, BUT ABOUT 20 DEGREES TO THE LEFT OR RIGHT

PMA7000MS-AUDIO PANEL



NOTE: COORDINATE RADIO AND INSTRUMENT OPERATION WITH PIC BEFORE FLIGHT

VOLUME-**PUSH ON/OFF** (CHECK FOR AT LEAST 1 LED, UNLESS IN COM3 MODE)

HIGH/LOW/TEST SWITCH-**TEST** (CHECK FOR ILLUMINATION OF O M I INDICATORS) **ADJUST SENSITIVITY IF AUDIO IN USE**

ISO/ALL/CREW TOGGLE SW – **SET AS REQUIRED** (INTERCOM MODE)

INTERCOM MODES				
MODE	**PILOT HEARS**	**OBSERVER HEARS**	**SCANNER HEARS**	**COMMENTS**
ISO	A/C RADIOS PILOT SIDETONE	OBSERVER & SCANNER INTERCOM	OBSERVER & SCANNER INTERCOM	ISOLATES PILOT
ALL	PILOT OBSERVER SCANNER A/C RADIO	OBSERVER PILOT SCANNER A/C RADIO	SCANNER PILOT OBSERVER A/C RADIO	ALL HEAR RADIOS AND CAN COMMUNICATE ON THE INTERCOM
CREW	PILOT OBSERVER A/C RADIO	OBSERVER PILOT A/C RADIO	SCANNER(S)	ISOLATES SCANNER(S)

COM SWAP SW- **SWAP PILOT AND OBSERVER RADIOS** LOCATED ON INSTRUMENT PANEL (SWAP INDICATOR ILLUMINATES)

AUDIO SELECTOR SWITCHES-**SET AS REQUIRED** (SEE BELOW)

COM1- VHF1

COM2-VHF2

NAV1-VOR1 RADIO

NAV2-VOR2 RADIO

PMA7000MS-AUDIO PANEL (CONT'D)

MKR-MARKER BEACON

ICS-ACTIVATES INTERCOM IN SPLIT MODES

ADF-ADF RADIO (MAY NOT BE AVAILABLE IN ALL AIRCRAFT)

COM3-CAP RADIO

DME-DISTANCE MEASURING EQUIPMENT (DME)

SPR-CABIN SPEAKER (NOT INSTALLED ON ALL CAP AIRCRAFT)

TRANSMITTER COMBINATIONS				
	NORMAL		SWAP	
MIC SELECT	**PILOT**	**OBSERVER**	**PILOT**	**OBSERVER**
Com 1	Com 1	Com 1	Com 2	Com 2
Com 2	Com 2	Com 2	Com 1	Com 1
Com 3	Com 3	Com 3	No Swap	No Swap
Com 1/2 *	Com 1	Com 2	Com 2	Com 1
Com 1/3 *	Com 1	Com 3	Com 3	Com 1
Com 2/3 *	Com 2	Com 3	Com 3	Com 2
***SPLIT MODES MAY RESULT IN AUDIO 'BLEED OVER' BETWEEN FREQUENCIES**				

SPLIT MODES →

☆ **MISSION SETTING –Com 1/3**

NOTE: ENSURE TRANSMITTER SETTING IS AS REQUIRED BEFORE USING RADIO.

TRANSMIT INDICATOR-ILLUMINATES WHEN TRAMSMITTING ON RADIO

SWAP-ILLUMINATES WHEN SWAP SWITCH IS ACTIVATED

NAT NPX-138 VHF RADIO

WARNING! ***DO NOT*** **OPERATE DURING IFR FLIGHT**

✔POWER -UP

MN KNOB – **ON (SELF TEST)**

NEXT SW- **TOGGLE LEFT/RIGHT**

EDIT SW-**CENTERED**

DISP- **ID MODE (DISPLAYS CH NUMBER & TEST LABEL)**

SCAN/NORM/GD- **SWITCH TO <u>NORM</u>**

GD1/GD2 SW - **GD2 (LESS TRAFFIC)**

CHAN SELECT- **AS REQUIRED**

MN KNOB- **ADJUST VOLUME**

SQ/HELP - **PRESS TO CHECK SQUELCH**

GD- **MINIMUM**

✔GUARD CHANNEL OPERATION

SCAN/NORM/GD **- GD**

GD1 - **148.150 (DEFAULT SETTING)**

GD2 - **149.5375 (DEFAULT SETTING)**

GD**- MINIMUM**

MN**- MINIMUM**

***NOTE: VHF TRANSMISSIONS ON CAP FREQUENCIES MAY INTERFERE WITH SLOW-SCAN DOWNLINK**

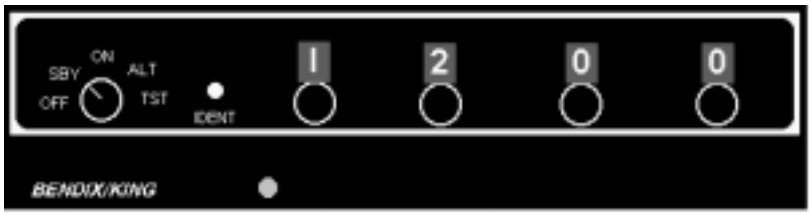
CAP PRESET VHF FREQUENCIES

CH	Channel Name	RX Freq	TX Freq	RX Tone	TX Tone	B/W	PWR	Local Info
1	CAP SPX1	148.1500	148.1500		100.0	W	Hi	
2	CAP SPX2	148.1250	148.1250		100.0	W	Hi	
3	CAP G/G	148.1375	148.1375		100.0	W	Hi	
4	CAP A/G	149.5375	149.5375		100.0	W	Hi	
6	MARINECH06	156.3000	156.3000			W	Hi	
9	MARINECH09	156.4500	156.4500			W	Hi	
16	MARINECH16	156.8000	156.8000			W	Hi	
21	MARINECH21	157.0500	157.0500			W	Hi	
22	MARINECH22	157.1000	157.1000			W	Hi	
23	MARINECH23	157.1500	157.1500			W	Hi	
24	MARINECH82	157.1250	157.1250			W	Hi	
25	MARINECH83	157.1750	157.1750			W	Hi	
31	RP0670	148.1500	143.9000	67.0	67.0	W	Hi	
32	RP0719	148.1500	143.9000	71.9	71.9	W	Hi	
33	RP0744	148.1500	143.9000	74.4	74.4	W	Hi	
34	RP0770	148.1500	143.9000	77.0	77.0	W	Hi	
35	RP0797	148.1500	143.9000	79.7	79.7	W	Hi	
36	RP0825	148.1500	143.9000	82.5	82.5	W	Hi	
37	RP0854	148.1500	143.9000	85.4	85.4	W	Hi	
38	RP0885	148.1500	143.9000	88.5	88.5	W	Hi	
39	RP0915	148.1500	143.9000	91.5	91.5	W	Hi	
40	RP0948	148.1500	143.9000	94.8	94.8	W	Hi	
41	RP0974	148.1500	143.9000	97.4	97.4	W	Hi	
42	RP1000	148.1500	143.9000	100.0	100.0	W	Hi	
43	RP1035	148.1500	143.9000	103.5	103.5	W	Hi	
44	RP1072	148.1500	143.9000	107.2	107.2	W	Hi	
45	RP1109	148.1500	143.9000	110.9	110.9	W	Hi	
46	RP1148	148.1500	143.9000	114.8	114.8	W	Hi	
47	RP1188	148.1500	143.9000	118.8	118.8	W	Hi	
48	RP1230	148.1500	143.9000	123.0	123.0	W	Hi	
49	RP1273	148.1500	143.9000	127.3	127.3	W	Hi	
50	RP1318	148.1500	143.9000	131.8	131.8	W	Hi	
51	RP1365	148.1500	143.9000	136.5	136.5	W	Hi	
52	RP1413	148.1500	143.9000	141.3	141.3	W	Hi	
53	RP1462	148.1500	143.9000	146.2	146.2	W	Hi	
54	RP1514	148.1500	143.9000	151.4	151.4	W	Hi	
55	RP1567	148.1500	143.9000	156.7	156.7	W	Hi	
56	RP1622	148.1500	143.9000	162.2	162.2	W	Hi	
57	RP1679	148.1500	143.9000	167.9	167.9	W	Hi	
58	RP1738	148.1500	143.9000	173.8	173.8	W	Hi	
59	RP1799	148.1500	143.9000	179.9	179.9	W	Hi	
60	RP1862	148.1500	143.9000	186.2	186.2	W	Hi	
61	RP1928	148.1500	143.9000	192.8	192.8	W	Hi	
62	RP2035	148.1500	143.9000	203.5	203.5	W	Hi	
63	RS0670	148.1250	143.7500	67.0	67.0	W	Hi	
64	RS0719	148.1250	143.7500	71.9	71.9	W	Hi	
65	RS0744	148.1250	143.7500	74.4	74.4	W	Hi	
66	RS0770	148.1250	143.7500	77.0	77.0	W	Hi	

CAP PRESET VHF FREQUENCIES (CON'T)

CH	Channel Name	RX Freq	TX Freq	RX Tone	TX Tone	B/W	PWR	Local Info
67	RS0797	148.1250	143.7500	79.7	79.7	W	Hi	
68	RS0825	148.1250	143.7500	82.5	82.5	W	Hi	
69	RS0854	148.1250	143.7500	85.4	85.4	W	Hi	
70	RS0885	148.1250	143.7500	88.5	88.5	W	Hi	
71	RP0915	148.1250	143.7500	91.5	91.5	W	Hi	
72	RS0948	148.1250	143.7500	94.8	94.8	W	Hi	
73	RS0974	148.1250	143.7500	97.4	97.4	W	Hi	
74	RS1000	148.1250	143.7500	100.0	100.0	W	Hi	
75	RS1035	148.1250	143.7500	103.5	103.5	W	Hi	
76	RS1072	148.1250	143.7500	107.2	107.2	W	Hi	
77	RS1109	148.1250	143.7500	110.9	110.9	W	Hi	
78	RS1148	148.1250	143.7500	114.8	114.8	W	Hi	
79	RS1188	148.1250	143.7500	118.8	118.8	W	Hi	
80	RS1230	148.1250	143.7500	123.0	123.0	W	Hi	
81	RS1273	148.1250	143.7500	127.3	127.3	W	Hi	
82	RS1318	148.1250	143.7500	131.8	131.8	W	Hi	
83	RS1365	148.1250	143.7500	136.5	136.5	W	Hi	
84	RS1413	148.1250	143.7500	141.3	141.3	W	Hi	
85	RS1462	148.1250	143.7500	146.2	146.2	W	Hi	
86	RS1514	148.1250	143.7500	151.4	151.4	W	Hi	
87	RS1567	148.1250	143.7500	156.7	156.7	W	Hi	
88	RS1622	148.1250	143.7500	162.2	162.2	W	Hi	
89	RS1679	148.1250	143.7500	167.9	167.9	W	Hi	
90	RS1738	148.1250	143.7500	173.8	173.8	W	Hi	
91	RS1799	148.1250	143.7500	179.9	179.9	W	Hi	
92	RS1862	148.1250	143.7500	186.2	186.2	W	Hi	
93	RS1928	148.1250	143.7500	192.8	192.8	W	Hi	
94	RS2035	148.1250	143.7500	203.5	203.5	W	Hi	
95	NOAA WX1	162.5500				W	Hi	
96	NOAA WX2	162.4000				W	Hi	
97	NOAA WX3	162.4750				W	Hi	
98	NOAA WX4	162.4250				W	Hi	
99	NOAA WX5	162.4500				W	Hi	
0 or 100	NOAA WX7	162.5250						

KT-76 SERIES TRANSPONDER



NOTE: COORDINATE RADIO AND INSTRUMENT OPERATION WITH PIC BEFORE FLIGHT

✔AFTER ENGINE START:

FUNCTION SEL **–STBY** (ALLOW 45-60 SECONDS FOR WARM-UP)

✔AFTER TAKEOFF:

FUNCTION SEL**-ON** (MODE A)

- OR -

FUNCTION SEL-**ALT** (MODE C- AUTOMATICALLY REPORTS ALT TO ATC AT 100 FT INTERVALS FROM 1,000 TO 35,000 FT)

IDENT-**SQUAWK IDENT AS REQUESTED BY ATC**

CNTL KNOBS- **ENTER CODE AS REQUESTED BY ATC**

IMPORTANT TRANSPONDER CODES	
7700	**EMERGENCY**
7600	**COMMUNICATION FAILURE**
7500	**HIJACKING**
0000	**⃠MILITARY- DO NOT USE!**

REPLY LIGHT-FLASHES AT REGULAR INTERVALS DURING NORMAL OPERATION

EMERGENCY EGRESS*

WARNING! DURING OVERWATER EGRESS, *<DO NOT>* DEPLOY PERSONAL FLOTATION DEVICES UNTIL CLEAR OF AIRCRAFT.

***EMERGENCY EGRESS PROCEDURES FOR CESSNA C-172/C-182 AND MAULE MT-7 AIRCAFT. REFER TO OPERATORS MANUALS AND CHECKLISTS FOR OTHER AIRCRAFT TYPES**

- **PILOT ADJUSTS SEAT ALL THE WAY FORWARD**
- **OBSERVER ADJUSTS SEAT ALL THE WAY TO THE REAR**
- **SCANNER SECURES SURVIVAL EQUIPMENT/RAFT FROM BAGGAGE COMPARTMENT**
- **PILOT AND OBSERVER EXIT THROUGH RIGHT DOOR (PILOT EXITS FRONT LEFT DOOR IN MT-7 MAULE)**
- **SCANNER EXITS THROUGH LEFT DOOR (REAR RIGHT DOOR IN MT-7 MAULE) <<DEPLOYS RAFT IF OVERWATER>>**
- **CREW MEETS *50 FEET* BEHIND THE ACFT (ON RAFT IF OVERWATER)**